Statement of Basis
Kimberly-Clark Corporation - Mobile Operations
Facility No. 503-2012

Kimberly-Clark (the Mill) has applied for the renewal of Major Source Operating Permit No. 503-2012. This proposed Title V Major Source Operating Permit is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Background

The Mill's original Title V Operating Permit was issued on February 18, 2009. Kimberly-Clark operates a tissue, towel, and napkin mill in Mobile, Alabama, which is located in Mobile County. The Mill's products are made from market pulp, recycled paper, and from other Kimberly-Clark mill's parent rolls. The Mill is a major source for the following pollutants: NOx, CO, Filterable PM, PM_{10}, $PM_{2.5}$, and volatile organic compounds (VOC). The facility is not under any ongoing enforcement necessitating additional permit requirements. Mobile County is currently listed in attainment with all National Ambient Air Quality Standards.

Changes from the existing permit:

- Incorporated the below Air Permits
    - 503-2012-X052 and 503-2012-X053: issued for the addition of the natural gas-fired combustion turbines and associated natural gas burners
    - 503-2012-X054: issued on May 30, 2018 for the No. 7 Tissue Machine
    - 503-2012-X055: issued on May 30, 2018 for the new converting lines
- Administratively updating the regulatory applicability for the RICE engines
- Removing the sewer pump engine as a source as it is no longer a stationary unit but a portable unit

Emissions

The main pollutants emitted from this facility are nitrogen oxides (NOx), carbon monoxide (CO), filterable particulate matter (PM), PM_{10}, $PM_{2.5}$, and volatile organic compounds (VOC). The emissions associated with the Mill's operations can be found in Table 1 below and are based on permitted allowable emission rates and/or operating 8,760 hours per year.

Table 1: Potential Emissions

Regulated Pollutant	Potential Emissions (tons/yr)	Major Source? (Yes/No)
Filterable PM	207.58	Yes
PM_{10}	168.56	Yes
$PM_{2.5}$	145.83	Yes
SO_2	8.07	No
NOx	107.42	Yes
CO	140.47	Yes
VOC	169.76	Yes

Total HAPs	9.69	No
Maximum HAP	2.01	No

No. 7 Tissue Machine

The No. 7 Tissue Machine receives a feedstock of slurry from either the recycled fiber or old corrugated container (OCC) processing areas. Kimberly-Clarke estimated the potential emissions for the process vents of the No. 7 Tissue Machine based on results of the previous testing conducted at a sister facility and hood of the No. 7 Tissue Machine using AP-42 emission factors. The facility is assuming 8,760 hours per year of operation at maximum rated capacity.

Control Equipment

The No. 7 Tissue Machine is equipped with a Valmet scrubber, which controls the PM emissions that are generated during the winding operations.

Emission Limits and Proposed Periodic Monitoring

The No. 7 Tissue Machine is subject to the requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for filterable particulate matter for the process control vents, Yankee dryer, and reel sections.

Unit	Selected BACT	Emission/Operating Limit	Compliance Method
TM7 Process Vents	Design and work practice	0.94 lb/MDTFP and 34.2 tpy	Good Operating practices
TM7 Yankee Dryer	Good combustion practice and use of pipeline quality natural gas	0.21 lb/MDTFP and 7.8 tpy	Performance test
TM7 Reel Section	Wet scrubber	0.06 lb/MDTFP and 2.28 tpy	Performance test

New Converting Lines

In the converting area, parent rolls are unwound via the "unwind" process at the beginning of the converting process. The overall flow of a converting line involves the unwinding of the parent roll, cutting logs into individual rolls for subsequent packaging in a variety of potential configurations such as individually wrapped and case packed, bundled with other rolls for multi-packs of varying sizes, and/or boxed or wrapped for distribution. Kimberly-Clarke estimated the potential emissions for the new converting lines based on stack test-related data. The facility is assuming 8,760 hours per year of operation at maximum rated capacity.

Control Equipment

The converting area is equipped with various scrubbers and drum filters. With this system, the Mill ducts the exhaust from each of the new converting lines to a dust cyclone separator which discharges to a slurry wash down unit. The slurry mixture is sent to the sewer and the exhaust air is processed through a high efficiency drum filter before being discharged into the building.

Emission Limits and Proposed Periodic Monitoring

For their BACT analysis, the Mill has installed a system that ducts the exhaust from each of the new converting lines to a dust cyclone separator, which discharges to a slurry wash down unit. The slurry mixture is sent to the sewer, and the exhaust air is processed through a high efficiency drum filter before being discharged into the building. The facility accepted work practice

requirements in lieu of an emission limit which would include collection of emissions to the control system and operation of the cyclone separator, slurry wash, and drum filter. Monitoring to ensure operation of the control device would follow the manufacturer's recommended practices.

Unit	Selected BACT	Emission/Operating Limit	Compliance Method
New Converting Lines	System comprised of cyclone separator, slurry wash, and high efficiency drum filter	Work practices	Manufacturer recommended practices

Combustion Turbines

The two combustion turbines are Solar Titan 250E natural gas fired simple cycle combustion turbines rated at 22.4 MW with a maximum heat input capacity of 219.46 MMBTU/hr. Each turbine has a heat recovery steam generator (HRSG) with supplemental 130MMBtu/hr natural gas fired burners. Kimberly-Clarke estimated the potential emissions for the combustion turbines based on emission factors and manufacturer's data. The facility is assuming 8,760 hours per year of operation at maximum rated capacity.

Control Equipment

Each turbine will be equipped with a selective catalytic reduction (SCR) on the exhaust stream for the control of NOx emissions. Each turbine will be equipped with oxidation catalysts (OC) for the control of CO and VOC emissions. The supplemental burners will be located upsteam from the SCR and OC; therefore, emissions will be controlled by these control devices.

Emission Limits and Proposed Periodic Monitoring

The combustion turbines are subject to the requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for PM_{10}, $PM_{2.5}$, and CO_{2e}. The turbines are subject to 40 CFR Subpart KKKK – Standards of Performance for Stationary Combustion Turbines for NOx and SO_2. The turbines have a synthetic minor NOx limit when both the combustion turbine and supplemental burners are operated together. The turbines are subject to annual NOx emissions testing.

Emissions Limits		
Combustion Turbine & Supplemental Burner	NOx	$\leq$ 25 ppm @ 15% O_2 or 1.2 lb/MWh useful output and 3.46 lb/hr
Combustion Turbine & Supplemental Burner	SO_2	$\leq$ 0.060 lb/MMBtu
Combustion Turbine & Supplemental Burner	CO	$\leq$ 4.21 lb/hr
Combustion Turbine	PM_{10}	$\leq$ 0.00885 lb/MMBtu and $\leq$ 1.94 lb/hr
Combustion Turbine	$PM_{2.5}$	$\leq$ 0.00885 lb/MMBtu and $\leq$ 1.94 lb/hr
Combustion Turbine & Supplemental Burner	PM_{10}	$\leq$ 0.00885 lb/MMBtu and $\leq$ 3.09 lb/hr
Combustion Turbine & Supplemental Burner	$PM_{2.5}$	$\leq$ 0.00885 lb/MMBtu and $\leq$ 3.09 lb/hr

Combustion Turbine & Supplemental Burner	CO_2e	$\leq$ 40,921 lb/hr and $\leq$ 179,235 tpy

RICE MACT Engines

Cummins Emergency Generator

The Cummins Emergency Generator (700a) is a (2002 model year) 170 brake horsepower (hp) compression ignition (CI) 4-stroke Reciprocating Internal Combustion Engine (RICE) and is used for emergency purposes only. According to 40 CFR 63.6605(a), the facility "must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply at all times." The engine is subject to the requirements listed in Table 2c of Subpart ZZZZ. According to 40 CFR 63.6640(f)(1) through (4), the facility must operate according to these requirements to be classified as an emergency stationary RICE. Also, this emergency generator is subject to ADEM Admin. Code 335-3-4-.01(1)(a and b), which states the pumps may not emit an opacity greater than 20%, as determined by a 6-minute average, except for one 6-minute period per 60-minute period where they are not allowed to emit an opacity greater than 40%.

Detroit-Pump House-MSWL03A

The Detroit-Pump House-MSWL03A Emergency Generator (700b) is a (1964 model year) 170 brake horsepower (hp) compression ignition (CI) 4-stroke Reciprocating Internal Combustion Engine (RICE) and is used for emergency purposes only. According to 40 CFR 63.6605(a), the facility "must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply at all times." The engine is subject to the requirements listed in Table 2c of Subpart ZZZZ. According to 40 CFR 63.6640(f)(1) through (4), the facility must operate according to these requirements to be classified as an emergency stationary RICE. Also, this emergency generator is subject to ADEM Admin. Code 335-3-4-.01(1)(a and b), which states the pumps may not emit an opacity greater than 20%, as determined by a 6-minute average, except for one 6-minute period per 60-minute period where they are not allowed to emit an opacity greater than 40%.

Kohler 125A-DF-RZG Emergency Generator

The Kohler 125A-DF-RZG Emergency Generator (700g) is a (2007 model year) 200 brake horsepower (hp) spark ignition (SI) 4-stroke Reciprocating Internal Combustion Engine (RICE) and is used for emergency purposes only. According to 40 CFR 63.6605(a), the facility "must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply at all times." The engine is subject to the requirements listed in Table 2c of Subpart ZZZZ. According to 40 CFR 63.6640(f)(1) through (4), the facility must operate according to these requirements to be classified as an emergency stationary RICE. This engine is not subject to 40 CFR 60 Subpart JJJJ due to it being manufactured before July 1, 2008, and being less than 500 hp, as stated in 40 CFR 60.4230(a)(4)(iii).

Kohler 125B-DF-REZG Emergency Generator

The Kohler 125B-DF-REZG Emergency Generator (700h) is a (2010 model year) 200 brake horsepower (hp) spark ignition (SI) 4-stroke Reciprocating Internal Combustion Engine (RICE) and is used for emergency purposes only. According to 60.4231(e), the engine is subject to the

emission standards of 40 CFR 60 Subpart JJJJ Table 1, for all pollutants. Table 1 of Subpart JJJJ lists the following emissions limits:

Maximum Engine Power	Model Year	NO_X	CO	VOC
HP≥130	2009+	2.0 g/HP-hr	4.0 g/HP-hr	1.0 g/HP-hr

According to 40 CFR 60.4243(d)(1) through (3), the facility must operate according to these requirements to be classified as an emergency stationary RICE. Also, this emergency generator is subject to ADEM Admin. Code 335-3-4-.01(1)(a and b), which states the pumps may not emit an opacity greater than 20%, as determined by a 6-minute average, except for one 6-minute period per 60-minute period where they are not allowed to emit an opacity greater than 40%.

John Deere-WFP Fire Pump Engine

The John Deere-WFP Fire Pump (700i) is a (2013 model year) 422 brake horsepower (hp) compression ignition (CI) 6-cylinder turbo charged diesel Reciprocating Internal Combustion Engine (RICE) and is used for emergency purposes only. According to 40 CFR 60.4202(d), stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in Table 4 to this subpart, for all pollutants, for the same model year and National Fire Protection Association (NFPA) nameplate power. 40 CFR Part 60.4205(c) says, "Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emissions standards in Table 4 of this Subpart, for all pollutants." Table 4 of Subpart IIII lists the following emissions limits:

Maximum Engine Power	Model Year	NMHC + NO_X	CO	PM
225≤KW<450 (300≤HP<600)	2009+	3.0 g/HP-hr	2.6 g/HP-hr	0.15 g/HP-hr

40 CFR 60.4207(b) requires that a CI engine with a displacement of less than 30 liters per cylinder must meet the standards found in 40 CFR 80.510(b). The per-gallon non-road diesel fuel standards include a maximum sulfur content of 15 ppm and minimum cetane index of 40 or maximum aromatic content of 35 volume percent. According to 40 CFR Part 60.4209(a), the facility must track the number of hours this unit runs for emergency and non-emergency purposes using a non-resettable hour meter, which must be installed prior to startup. According to 40 CFR Part 60.4211, the Mill must maintain and operate this CI RICE according to the manufacturer's emission-related written instructions, and follow the operating time limits in Part 60.4211(f). Also, this emergency generator is subject to ADEM Admin. Code 335-3-4-.01(1)(a and b), which states the pumps may not emit an opacity greater than 20%, as determined by a 6-minute average, except for one 6-minute period per 60-minute period where they are not allowed to emit an opacity greater than 40%.

Emission Point	Pollutant	Emission Limit
700a, 700b	HAPS	a) Change oil and filter every 500 hours of operation or annually, whichever comes first; b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c) Inspect all hoses and belts every 500 hours of operation or

		annually, whichever comes first, and replace as necessary.
700g, 700h	HAPS	a) Change oil and filter every 500 hours of operation or annually, whichever comes first; b) Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
700g, 700h	HAPS	a) Operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions; and b) Adjust engine settings according to and consistent with the manufacturer's instructions; and c) Keep records of conducted maintenance to demonstrate compliance.
700h	NOx, CO, and VOC	NOx: 2.0 g/HP-hr CO: 4.0 g/HP-hr VOC: 1.0 g/HP-hr
700i	PM, CO, and NOx+ NMHC	NMHC + NOx: 3.0 g/HP-hr CO: 2.6 g/HP-hr PM: 0.15 g/HP-hr
700a, 700b, 700g, 700h, 700i	Opacity	20% with one six-minute period up to 40% in any one-hour period
700a, 700b, 700i	SO_2	Only fire diesel fuel with a sulfur content not to exceed 15 parts per million

All of these units are limited to less than 100 hours per year of non-emergency use, per the requirements of NESHAP ZZZZ, NSPS IIII, and NSPS JJJJ records of which must be kept in a suitable form for inspection for at least 5 years.

Below is a list of all sources that are only subject to the general provisions of the proposed Title V.

Source No.	**Description**
100	No. 5 Tissue Machine
101	No. 6 Tissue Machine
103	No. 8 Tissue Machine
104	No. 11 Tissue Machine
300	Fiber Preparation
400	Utilities
700d	5&6 Sewer Pump Engine (portable)

CAM

CAM applies to pollutant specific emission units that are subject to an emission limitation or standard where a control device is used to achieve compliance with an applicable emission limitation. The CAM rule requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations. This facility has units that are subject to CAM, as detailed below.

For 801 Combustion Turbine and 802 Combustion Turbine, the Title V Permit currently requires continuous monitoring, which satisfies the CAM rule that requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations.

- 801 and 802 Combustion Turbines (NOx) – continuous monitoring of outlet concentration of NOx and O_2 in the combustion exhaust stream post-SCR and natural gas flow
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The above listed parametric indicator monitoring systems satisfy the compliance assurance monitoring requirements for the above listed emissions from these emission units.

Recommendation

The renewal Major Source Operating Permit (503-2012) shall be issued with the requirements above pending resolution of any comments received during a 30-day public comment period and a 45-day EPA review.

Toshia Martin
Industrial Chemicals Section
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Air Division

March 2, 2021
Date